

REMARKS

Claims 1-3, 5-7 and 17-22 are pending with claims 1-3 being independent. Claims 4 and 8-16 have been cancelled. Claims 1-3 have been amended. No new matter has been added. In light of the foregoing amendment and following remarks, reconsideration and allowance of all pending claims are respectfully requested.

Examiner Interview

Examiner Wilder is thanked for conducting a telephone interview on July 26, 2010. An agreement was reached that a Request for Continued Examination (RCE) will be filed with an amendment as discussed. Also, the Examiner suggested filing an expert declaration under 37 C.F.R. § 1.132 in a supplemental response shortly after the RCE.

Rejections Under 35 U.S.C. § 103

Claims 1-3, 5-7 and 17-22 stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over US Patent Application Publication No. 2003/0174324 to Sandstrom in view of US Patent No. 6,248,540 to Weinberg and further in view of US Patent No. 5,600,444. While not agreeing with the rejections, claims 1-3 have been amended to obviate the rejections.

For example, claim 1 has been amended to recite in part, "providing a microarray comprising a plurality of DNA cells and a blank area between two adjacent DNA cells, wherein the blank area is separate from the DNA cells...removing a background noise in the measured DFWM signal of the one DNA cell by using a DFWM measurement of the blank area between the one DNA cell and an adjacent DNA cell..." Thus, the proposed amendment further clarifies that the background noise is removed by comparing against a blank area between DNA cells, and that the blank area is separate from the DNA cells. This is possible because of the specific use of the DFWM system as claimed. The high spatial resolution of the claimed DFWM in detecting microarray of DNA cells is achieved at such a level to allow for detecting a blank area between two adjacent DNA cells. This distinguishes from the use of blank DNA cell sites used in Sandstrom, which relies on fluorescence technology rather than DFWM. The fluorescence

technology in Sandstrom cannot provide the necessary high spatial resolution to be able to use the blank space between the DNA cell sites, and thus must use the DNA cell sites as a blank. Thus, in Sandstrom, some of the DNA cell sites are wasted as blanks.

The addition of Weinberg fails to cure the deficiencies of Sandstrom. As identified by the examiner, Weinberg does not have enough details to enable such application of DFWM. Rather, Weinberg merely describes that it is possible to use a DFWM system on a microarray. Weinberg never describes or contemplates using DFWM to remove background noise using the blank spaces between adjacent DNA cell sites as recited in claim 1.

Similarly, Tong does not contemplate the claimed application of DFWM on a microarray to remove background noise as claimed.

For at least these reasons, claim 1 and its dependent claims are patentable over the proposed combination of Sandstrom, Weinberg and Tong. Claims 2-3 and their dependent claims are its dependent claims are patentable for at least similar reasons.

Moreover, claim 3 recites additional feature of "using the different DFWM signals from the DNA cell to determine spatial inhomogeneity within the DNA cell." The proposed combination fails to teach or suggest this additional feature of claim 3. While the Office contends that Sandstrom teaches this feature at pages 13 and 14, the cited portions fail to support the contention. Rather than address the above claimed feature, the cited portions of Sandstrom merely describes methods for hybridization of microarray probes to labeled or unlabeled targets. Clearly, the described methods for hybridization of microarray probes in Sandstrom are unrelated to the claimed features at issue. If the rejections are maintained in the next office action, it is respectfully requested that the Office clearly articulate how Sandstrom teaches or suggests the above claimed features.

For at least these additional reasons, claim 3 is patentable over the combination.

Additionally, a supplemental response will be submitted to include a declaration under 37 C.F.R. 1.132 as suggested by the Office.

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Page : 7 of 7

Attorney's Docket No.: 09077-8003.US01 / Tong W3

CONCLUSION

The foregoing comments made with respect to the positions taken by the Examiner are not to be construed as acquiescence with other positions of the Examiner that have not been explicitly contested. Accordingly, the above arguments for patentability of a claim should not be construed as implying that there are not other valid reasons for patentability of that claim or other claims.

Respectfully submitted,

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